

Editorial JOURNAL BOX

CONTENTS.

This issue will no doubt become known as the "baseboard" issue. I had committed myself to write on this subject as number three in the series for beginners, when in came an excellent article from Maurie McKinnon, whom I consider to be an expert on this subject.

I have decided to publish both, because whilst I acknowledge that Maurie's article is O. K. for portable and small layouts, there are (and he agrees) more suitable methods for larger layouts, which is my department, based on recent experience.

I hand over to Maurie, however, for basic methods and timbers to use (see his article in the March/April issue).

What better way to wish members a "Merry Xmas" - than to show the newcomers (and a few of the older members) how to kick off into the next stage after receiving that train set for Xmas.

A. Dowel

President's Letter
Secretary's Desk
Bench Work Without Tears
The Range Centenary
V. R. Narrow Gauge NB Car
The Foundations
Conversion to N.S.W.G.R. Hoppers
Styrene - The Versatile Material
Branch Reports
1967 Sydney Exhibition Report.
Book Review
Shop Spy

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President's Letter

The constant spiralling of costs is of grave concern to the Federal Committee and over the past year, we have been faced with an increase in cost of printing, of paper, and then the crippling blow of 125% increase in postage. The last thing the Federal Committee wanted to do was to increase subscriptions, so other measures had to be investigated. As a result, this Journal is being presented to you in a different style. It means more work for members connected with Journal's publication, but it is a considerable saving in the cost of production. It means that we can give you more material in Journal at less cost - it still provides photographs and diagrams and plenty of reading matter.

As this is the last Journal for 1967, I hope I see a "green light" for a clear line into 1968 and that A.M.R.A., along with all other Model Clubs and fellow modellers, see this also. I wish all modellers, wherever they may be, the very best of greetings for Christmas and the New Year.

ERIC DOHERTY.

BEST ARTICLE.

Review of Victorian Railways Narrow Gauge 2'6" by Allen Ball.

BEST PHOTO.

3649 and 6014 by Colin Gilbertson, who also had the runner-up, 632, on page 113.

Congratulations to you both. I believe prizes have finally run out, but no doubt these wins give great satisfaction to the authors.

Secretary's Desk

The Annual Meeting of the Federal Committee was held at Jeetho on Saturday 16th September, when the following Committee was elected:-

President:	Eric Doherty
Vice-President:	John McNabb
Registrar:	Mal Baker
Treasurer:	Jack Treseder
Secretary:	Cedric Rolfe

Committee - Chas. Smith, Norm. Robinson, Laurie Burrows, Adrian Kells and Rex Little.

Keith Wilcox and Grant McCarthy were visitors from the newly formed Blue Mountains Branch and were welcomed by the retiring President, Norm. Robinson.

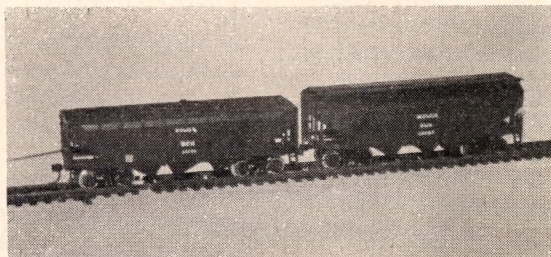
Meritorious Award - At the October meeting, Ivo Bunker was chosen for the Meritorious Award for 1967. Ivo, with his wife Corrine, edited "Buyer's Guide" for so many years and Ivo has always had the interest of the Association at heart and nothing has ever been too much trouble if it was for the benefit of A.M.R.A. Congratulations, Ivo, and many, many thanks to you, too, Corrine.

The President has explained to you in his letter the reasons for the new set-up of Journal and the discussion on this took up most of the time at the October meeting.

We hope that this issue of Journal will reach you in plenty of time for Christmas and may I wish you all the compliments of the Season.

Happy modelling.

CEDRIC ROLFE.



Two models by the author.

C. J. GILBERTSON.

Bench Work Without Tears

By M. McKINNON

As mentioned in my two previous articles, this series is intended to help the beginner, both in the hobby and in the field of wood-working. Other articles written on the subject of wood-working for youths, including articles covering the construction of the layout built by the Melbourne Model Railway Club, have been excellent, technically, and have approached the subject from different angles. These articles are fine, providing that one has some experience in wood-working, but where does the inexperienced beginner start? Give up and start collecting scraps? Not "Pygmalion" likely! Rather than go to the trouble of spending much time and energy practising to become a proficient wood-worker, I recommend that he keep it strictly simple - in short, "hammer and nails" carpentry.

At first glance, this might appear to be a crude way of doing a job, but remember, a simple joint well-made will always be stronger than a more complicated joint poorly made. So let's start by learning to make joints simply and efficiently, then go on from there.

JOINTS.

First, let's have a quick run-down on the subject of joints, as most wood-working projects begin with some kind of joint. The nature of wood is such that it can only be joined efficiently by means of one or more of the following methods:-

1. Fastenings of wood or metal, i.e., wooden dowels or pegs, nails, screws, bolts, corrugated fasteners.
2. Re-shaping the wood so that it physically interlocks, i.e., forms a joint, either simple or complicated.
3. By some type of adhesive, either animal glue (used hot), casein (cold water) glue or P. V. A. glue (Aquadhere).

With the improvement in modern times of adhesives and, to a lesser extent, metal fastenings, the need for complicated joints has been greatly reduced. We can take advantage of this improvement in adhesives

and use simple joints in our job of constructing benchwork, etc. However, the basic requirement of any joint, and more so for simple ones, is a good close fit, as it gives maximum glue line and physical strength.

SIMPLE BUTT JOINT.

The simple butt joint, well-made and glued with P.V.A. glue, will be ample for our benchwork purposes. First requirements for good joints are clean, square ends to all rails. To assist the beginner who does not have a saw-bench with which to do this "squaring-off", it is suggested that a cutting box be made up from scrap material to details as shown in Fig. 1. Always use the same saw in conjunction with the box as was used to cut the slots.

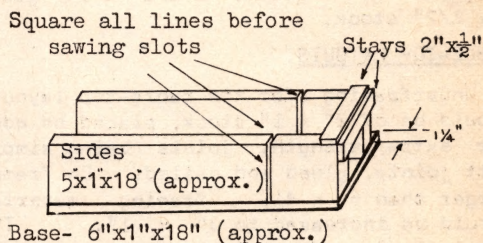


Fig.1 CUTTING BOX

To aid in cutting all rails to uniform length, save a lot of marking out and to speed up cutting, use a stop-block on the bench top in conjunction with the cutting box (see Fig. 2). Stand the timber on edge in the box to cut it as this makes for easier, quicker cutting and gives a cleaner end. To make the actual joint, cut the rail to length, square two lines across the edge of the side rail (to position the cross rail) start the nails into the side rail, glue the end of the rail (just run two lines of glue from the dispenser across the end of the rail - glue will spread itself), place the rail in position and nail up, driving the nails just below the surface with a nail punch - and your joint is made.

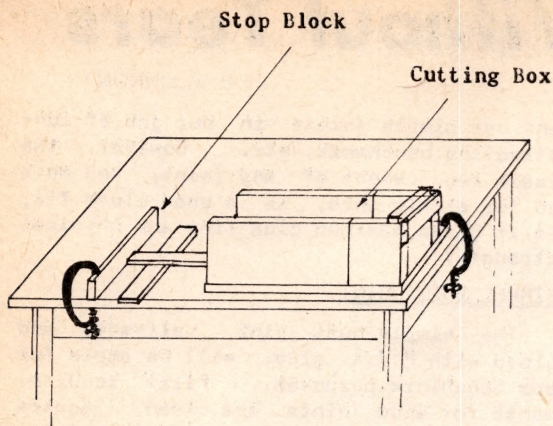


Fig. 2 CUTTING BOX USED WITH STOP BLOCK.

So much for a butt joint - a simple joint, but quite an effective one if rail-ends are square and are glued with P.V.A. glue. Nails should be bullet-head, 2" x 12 gauge for 1" stock, 1-1/2" x 14 gauge for 1/2" stock.

TABLE-TOP LAYOUTS.

Underframing for the table-top layouts should be of 2" x 1" stock, placed on edge for extra strength, joints being simple butt joints, glued and nailed. On frames larger than 6' x 4', framing material should be increased to 3" x 1". The physical size of portable table-top layouts is limited to approximately 9' x 4'; larger than this and the layouts become too cumbersome to handle. Rails should be spaced approximately 18" apart and don't forget to notch the tops of the rails before fixing the top. Once the top is fixed on, providing holes in rails to accommodate wiring can be extremely tiresome, to say the least. Top can be

formed by sheets of 1/2" particle board glued and nailed to the frame with 1" deep drive panel pins. For further details see Fig. 3.

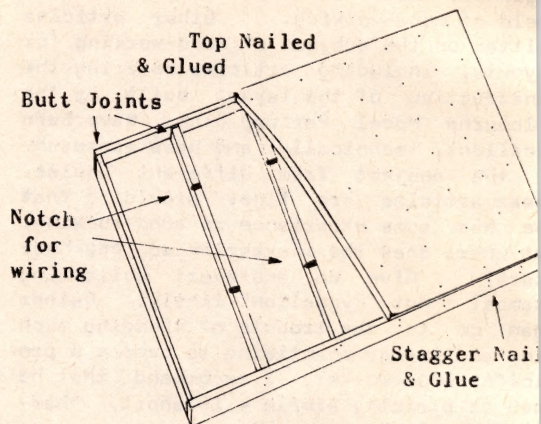


Fig. 3 TABLE TOP BOARD

HOIST-UP LAYOUTS.

Hoist-up type layouts are made as for table-top types. For larger hoist-ups, say in excess of 8' x 4', weight can be reduced and rigidity increased to resist wracking by using 4" x 1/2" on edge for the framing: 4" strips of 1/2" particle board can be used in place of solid timber and 3/8" particle board can be used for large areas of decking. As well as cross rails at 15" centres, use rails lengthwise at 2-foot centres (approximately) and join them to the cross rails egg-crate fashion, strengthening the joints with glue blocks (see Fig. 4). This will give extra rigidity, which will be needed during hoisting operations.

Glue Blocks - Size Optional

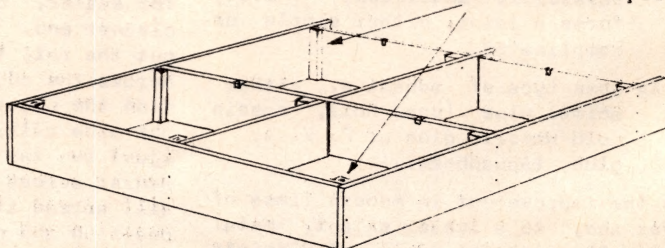
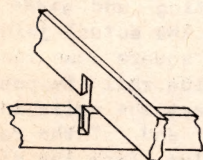
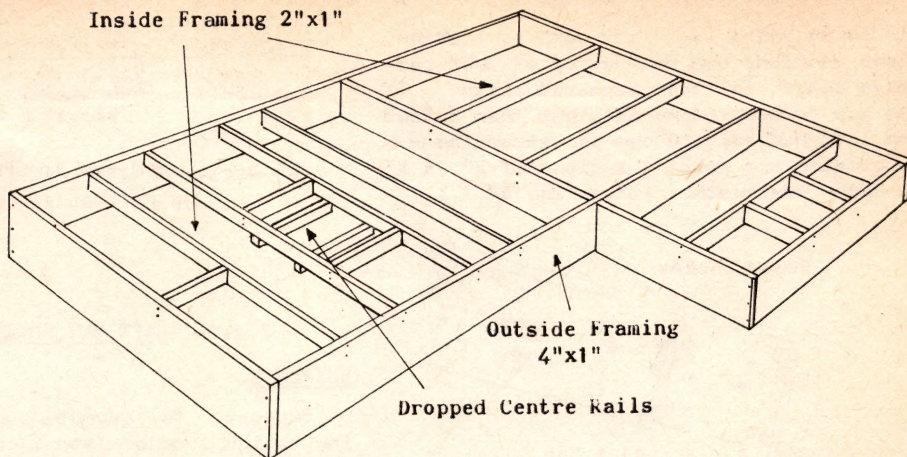


Fig. 4 EGG-CRATE CONSTRUCTION

Fig. 5 OPEN TOPPED FRAMEOPEN TOP LAYOUTS.

Open top type tables can be constructed using 3" x 1" stiles and end rails, intermediate rails being of 2" x 1", all on edge and butt-jointed. Rails should be 15" apart.

Where depressed areas are called for in scenery, sub-frames can be used to support track-bases at the required height, the absence of full width rails allowing low scenic areas to be included later without alteration to the framework.

There is no limit to the physical size of layouts of this type, providing that they are adequately supported. On larger layouts, rail sizes should be increased to 4" x 1" and 3" x 1" respectively. Further details in Fig. 5 above.

TRACK-BOARDS.

Track boards are best in 1/2" or 3/4" particle board as this material has all the requirements needed for this purpose.

Don't make the track boards too wide, otherwise trouble may be encountered when the scenery is being installed. Allow approximately 3/8" in width each side of the sleeper base or track underlay, if used; this approximates the width of the "earthworks" and gives a basis for mating the adjacent scenery to the track-works. Bases for curved track should be cut to the required curves by bandsaw or jigsaw, if possible, otherwise with some type of flexible handsaw, i.e., coping saw, key-hole saw, etc.

Where scenery levels permit, curves can

be laid on straight track - boards wide enough to accommodate the curves.

Where track boards have to be joined, a piece of 1/2" particle board at least 8" long should be glued and nailed under the joint clear of the rails. Before fixing track-boards into position, make sure that the fixing points are level. If necessary, remove high spots on rails and always pack up low spots with thin wooden strips. Thin packing strips can be obtained by soaking strips of plywood in water for a couple of days so that they are easily delaminated. When all fixing points are levelled correctly, glue and nail the track-boards in position.

The commencement of grades in track-works needs special care to achieve smooth running over the change in levels. This is best achieved by using a piece of track-board the correct width, shaped to a bevel corresponding to the grade concerned. The level needs to be brought to a feather edge, so that the change from level to grade will be made as smoothly as possible. Run the level track-board past the point of commencement of the grade, then glue and nail the shaped piece on the level track-board at the correct spot.

LIFT-OUT SECTIONS.

Lift-out sections are sometimes used to conveniently carry track work across doorways or to provide extra width to base-boards in areas which otherwise need to be kept clear. A long, narrow layout along a garage wall can be provided with extra width near the double doors for a turning

circle by using a "lift-out" section. These sections can be made up of 3/4" particle board in the required width. If the gap to be bridged is wider than 3 feet the lift-out section can be strengthened by gluing and nailing a piece of 2" x 1" on edge underneath. (See Fig. 6A.).

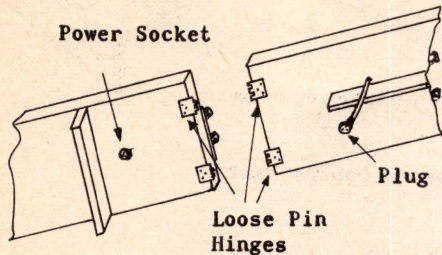


Fig. 6(A) Lift-out for Doorway

The use of loose-pin hinges to attach "lift-outs" to fixed track-work overcomes the biggest disadvantage of "lift-outs" - it makes them "register". Use 3" steel butt loose-pin hinges, which are quite effective and cheap. One hinge each end is sufficient on sections up to 6" wide, providing that the hinges are fixed under the track. Side extensions can be mounted with a hinge each end, providing that the hinges are fixed on top, as per Fig. 6B. Ease the hinge pins with fine emery cloth if necessary and keep them smeared with vaseline to aid in their withdrawal and short degression here.

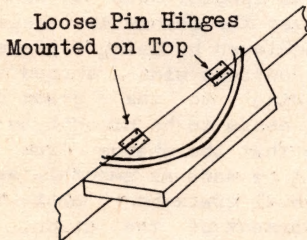
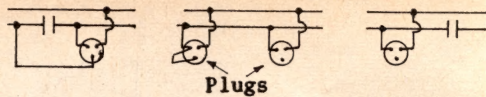


Fig. 6 (B) Lift-Off Extension

"Lift-outs" need some protection to avoid running locos on to the floor when sections have been removed. By providing short "dead-sections" either side of the break and wiring these sections and the "lift-out" through plugs and sockets (even three-pin power type plugs and sockets will do) according to Fig. 6C, pile-ups should be almost impossible.



(C) Wiring Diagram for Protection of Lift-outs.

Fig. 6 LIFT-OUT SECTIONS

SUPPORTS.

Supports for layouts can vary, according to the type of layout concerned. For the small portable layout, fold-up legs can be used effectively. Mount 3" x 1" K.D.H.W. legs by using a 1/4" carriage bolt in each leg in the manner shown in Fig. 7A, approximately 12" from each corner, and the layout should stand in a stable manner. By installing the legs on the inside of the frame, they can be made removable by securing the bolts with wing nuts.

If the layout top is allowed to project 1" over the edge of the frame, the legs can be fixed to the outside of the frame and simply made to fold up under the front edge of the top. To keep each leg in place when not in use, slip a 2" nail into the oversized holes drilled through each leg and the frame.

These two types of legs also suit small hoist-up layouts (see Fig. 7A.)

For larger portables or hoist-ups, light trestles are recommended, as they can be made wide enough to support the frame across the full width. Even for the beginner, trestles can be made up easily by using 3" x 1" K.D.H.W. and following the instructions in Fig. 7B. When assembled stand the trestles on a kitchen table top, place a spirit level on the top rail and adjust the length of each leg until the top rail is level. Layouts over 8 feet in length need three trestles.

A fold-down layout can be fastened to a wall by nailing a piece of 3" x 1" to the wall studs, then hingeing the layout frame to this rail with 3" steel butt hinges. Fixed layouts can also be fastened in the same manner or they can be simply nailed to the wall studs.

Radius Top of Leg to $1/16$ th
Less Than Half Width of Leg

Top Set Back Approx. 1"

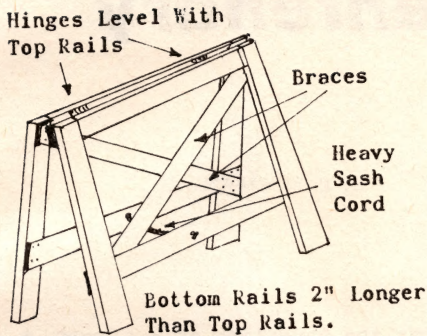
Pivot in
Centre of Leg

Stop Block Glued
& Nailed

FOLDING LEG 7(A)

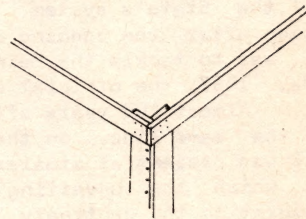
FREE-STANDING LAYOUTS.

Sometimes a layout cannot be supported on at least one side, in which case legs need to be more substantial. The problem can be overcome by the use of two pieces of 3" x 1" glued and nailed to form right-angled legs, one of each of these fabricated legs being used on each corner. (See Fig. 7C). On a free-standing layout, intermediate legs need to be side-braced to give added stability. This can easily be achieved by using a piece of 3" x 1" as a spacer between the inside of the rail and the outside of the leg (see Fig. 7D.)

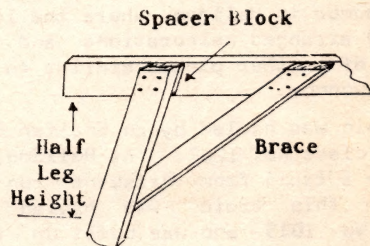


(7B) TRESTLE

Where one side of a frame is fixed to a wall, the front legs can be glued and nailed to the front or cross rails. These legs need only be of 3" x 1", placed approximately 4 feet apart, as rarely are they called upon to support a great deal of weight. Cut the legs a little shorter than the calculated length, remembering that each leg will need to be measured separately in case of irregularities in floor level. Start the nails into the leg, apply the glue and stand the leg in position. Level the frame by means of a spirit level, fasten the leg to the rail with a "G" clamp, then drive home the nails. This method is much more satisfactory than trying to adjust leg lengths after they have been fixed in place.



(7C) Corner Legs.



(7D) Inside Brace for Leg
Used on Free-Standing Benchwork

Don't forget that in the event that part of your layout is installed over fixtures such as cupboards or nests of drawers, the space between the fixtures and the layout must be enough to allow room to work on wiring, point motors, etc. Short legs between the frame rail ends and the top of the cupboards, etc., are usually necessary to support a frame over fixtures.

The above notes, although written primarily to assist the tyro wood-worker to get started in his bench-work, are basically sound for even the most advanced and com-

plicated layouts. Possible exceptions would be highly specialised layouts such as an exhibition or transportable layouts which are subject to considerable assembling, disassembling and transporting. Layouts of these types need more rugged construction. Frames built along the lines described above will be much more than adequate for normal usage and have one big advantage over more complicated types of construction. They are economical on both materials and money for that all-important pastime - MODEL RAILWAYS.

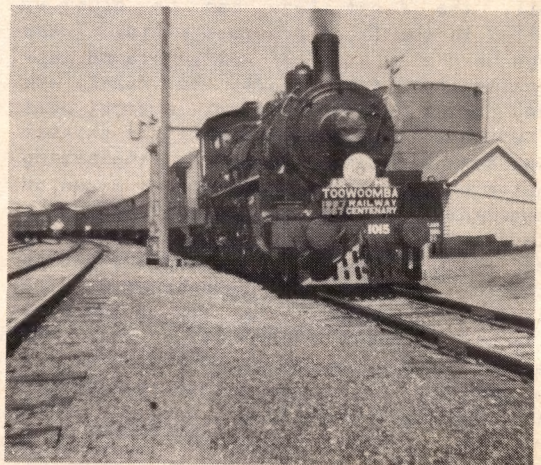
The Range Centenary

By P. MOTTRAM

In 1965, Queenslanders celebrated the beginnings of the State's system. The next major step after the opening of the line in 1865 was to tackle the Main Ridge and on 1st May, 1867, the official opening took place. Almost 100 years after the opening of the same line, on the 30th April, 1967, I was present at similar celebrations at which the unveiling of a plaque commemorating the centenary of the railway took place. The Town Council of Toowoomba had set up a Centenary Committee which arranged for a special train to run from Toowoomba to Helidon, where the local people had arranged celebrations and the unveiling of another plaque similar to the one at Toowoomba.

The train was hauled by an English Electric 1270 class No. 1287. At Helidon, it was met by a train from Brisbane run by A.R.H.S.: this train was hauled by BB 18-1/4 No. 1015 and was built up to a size comparable with a Sydney Mail Train of the early 1950's, coaching stock being that of the Sydney Mail Train.

After the unveiling of a plaque at Helidon, the A.R.H.S. Special left ahead of the other special, as it was running as a replica of the Sydney Mail Train and naturally had to maintain a fast time-table. It is interesting to note that this train



A.R.H.S. special arrives at Helidon.

The Foundations

THIRD IN A SERIES FOR BEGINNERS

By Allan Dowel

Just as the foundations for a building must have first-class reliability, so should those for a model railway. There must be no skimping in size, or making do with makeshift types of materials.

No member should launch out into a new layout without first reading Maurie McKinnon's article "Wood for Works and Ways" in the March/April 1967 issue. His article in the November/December issue, "Benchwork Without Tears", contains excellent further advice, particularly to the wood-working novice, on how to actually use these timbers.

I will thus confine myself to generalities and the methods used recently in two large layouts.

THE THIRD DIMENSION.

One should not assume that a model railway layout must be built on a "table top". Nothing looks worse than a whole layout in one plane. You say, "Oh yes, but I will add the hills." O.K., then why waste expensive baseboard under hills?

Except for small layouts, particle board should be confined to track bases and station areas, and the rest of the area filled in with some scenic material, preferably plaster on chicken wire.

This way, the third dimension can be up (hills) or down (valleys, lakes, rivers, ponds, etc.). As well as looking better, this method cuts down on both cost and weight.

TRACK BASE.

Particle board for single track should be about 3" wide, which allows room to finish the scenery at the edge of the track-

base. It must be cut with a jig-saw or keyhole saw for curves, unless of course the terrain beside the track is higher, in which case, the particle board can be cut straight and finish anywhere under the hill

ALLOW FOR VARIATIONS.

As in prototype, a large model railway is constantly under change. For this reason, the foundations must permit these changes without the need for a wrecking bar.

The L girder method, developed in U.S.A., is designed with this in mind. It uses L-shaped girders made from two pieces of timber which are glued and screwed together along the longest dimension of the layout, whether table-top or bench type. The construction is shown in Fig. 1. This girder gives great strength and stability and presents both vertical and horizontal faces for attaching legs, braces and joists.

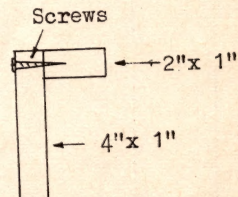
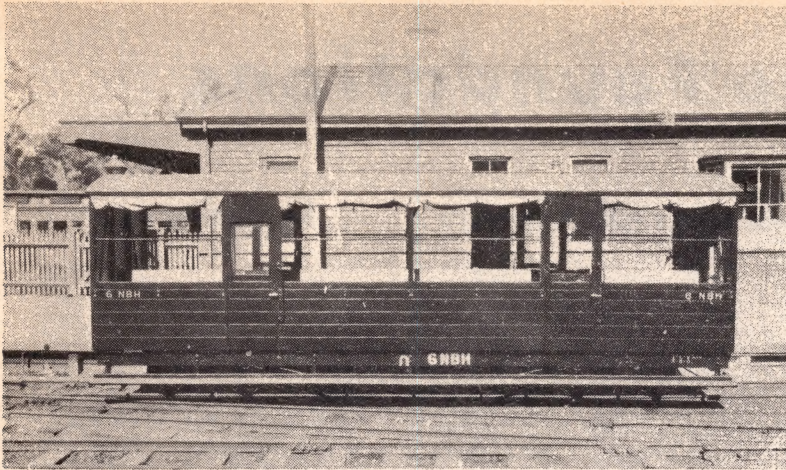
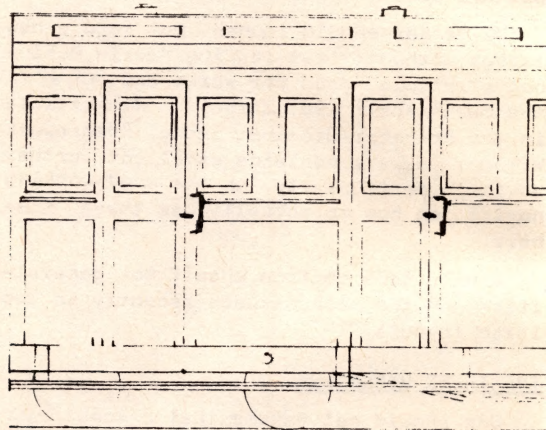


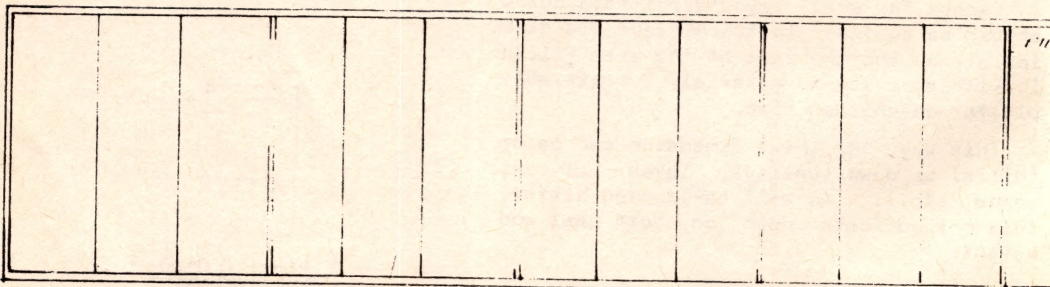
Fig.1 L Girder



DRAWN:	
Sept.	



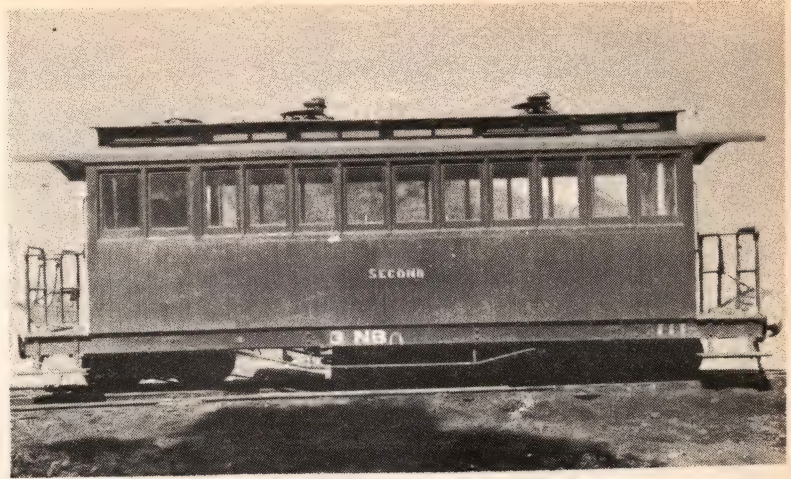
Side Elevation



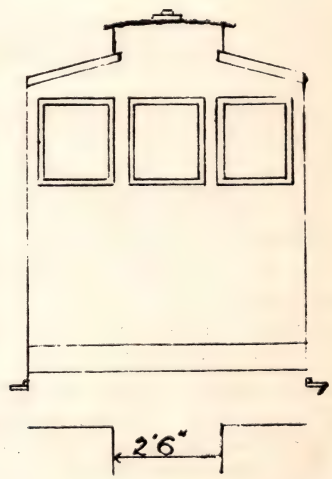
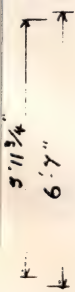
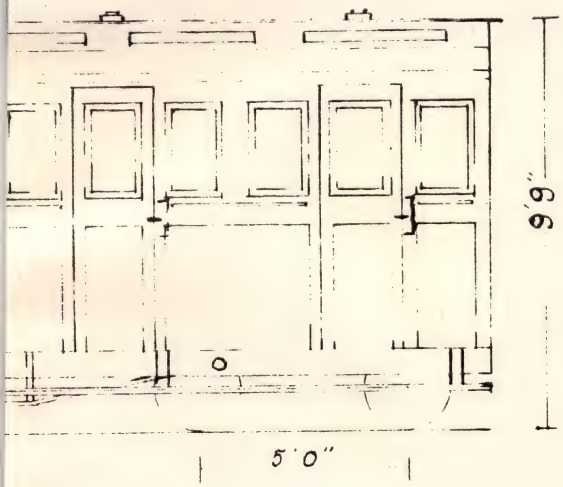
29'6"

Plan

WAYS



Another type of NB car
(V.R. Narrow Gauge)



End Elevation



A.R.H.S. Special outside Lockyer Station



Special with banking engine at Tipperary

left nine minutes late due to the fact that the passengers were reluctant to re-board the train.

At Murphy's Creek, a banking engine was attached to the special (B 18-1/4 No. 228) as well as an extra coach.

At Toowoomba, after the arrival of the trains, the speeches of the day were given by Messrs Jones (Acting General Manager, S.W.D.), P. Wood, M.L.A., J. Duggan, M.L.A. (a former Minister for Transport), J. W. Knowles, A.R.H.S., and the Hon. W. Knox, M.L.A. (Minister for Transport).

After this, the plaque was unveiled by the Minister for Transport and the A.R.H.S. Special left headed by BB 18-1/4 No. 1088.

The next date of importance in the history of the Q.G.R. is the 17th September, 1967, when the people in the north will be celebrating the centenary of the first section of the Great Northern Railway from Rockhampton to Westwood.



Special crosses Lockyer Creek, No. 1088 at the head. Note the early reinforced concrete construction.

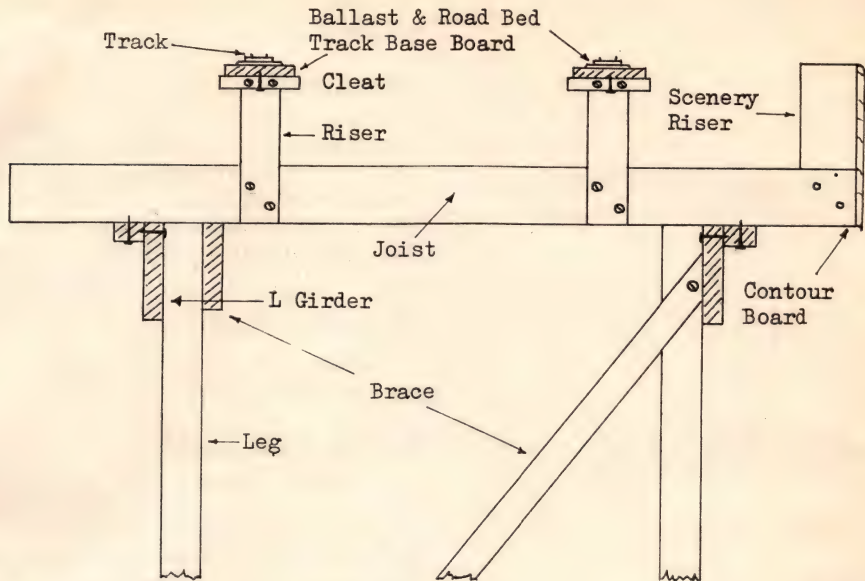


Fig. 2 Assembly

A glance at Fig. 2 will show the whole tory from the floor up.

LEGS (say 3" x 1") support the whole from the floor. To these legs are attached the pre-fabricated L GIRDERS, which run lengthwise over the layout. Note that these are not on the edge of the layout. If positioned in about 12" from the edge, the joists will be stronger as the span is lessened. Also, legs will not be kicked, and by varying the lengths of the joists, the layout edge can be contoured.

BRACES (say 2" x 1") support the legs in each of two planes.

JOISTS (2" x 1" up to about 3 feet in length or 3" x 1" over 3 feet) are attached to the small face of the L girder with screws only (from below). Thus, the joists can be positioned or moved as required, even placed at an angle across the girders.

RISERS (2" x 1/2" to 3" x 1") are screwed to the joists and set at the correct

height for the track they will carry.

CLEATS (about 3/4" x 3/4") are fixed flush with the top of the risers with two screws.

The TRACK BASE is then fixed to the cleats by screwing from underneath through the cleats into the base.

This method ensures that all screws are into cross-grain, and screws do not have to be positioned from the top, thus ruining scenic finish, or requiring track to be moved aside. The track base of course then carries the ROADBED (plastic foam or cork) and the TRACK and BALLAST if required.

Finally, SCENERY RISERS can be positioned to support the high points in the terrain and a CONTOUR BOARD (3/16" hardboard) fitted along the edge.

It is not difficult to see that with this method, should a riser be in the way of point motor, etc., then by undoing a few screws, the whole joist can be moved to a more suitable position.

Superelevation can be simply added by placing small pieces of card or wood as shown in Fig. 3 (shown exaggerated).

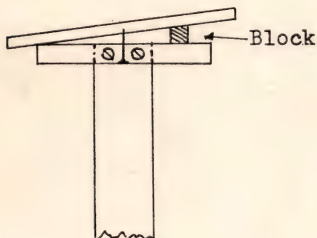


Fig.3
Providing Super Elevation

THE TRAY SYSTEM.

For two reasons (a) to permit speedier construction and (b) to allow some degree of portability, the M.M.R.S. layout in Melbourne was constructed on a slightly different scheme from that described above.

In this case, the frame was constructed by one team, comprising legs, braces, and the vertical members only of the L girders. Another team screwed joists to "rails" (the smaller 2" x 1" members of the L girders). Thus, the two jobs proceeded concurrently and incidentally by making the "trays" upside down, it was a lot easier screwing the rails to joists from topside.

When the trays were completed, they were simply dropped in between the 4" x 1" of the L girders and attached to them by fitting the L girder screws last.

The L girder and tray schemes use a lot of screws. Save work by:-

- (a) Purchasing "screw mates" for the screw sizes that you intend to use. These are special drills made by Stanley or Titan which drill a screw hole as a "3 in 1" operation: small hole for the thread, a larger one for the shank, and the correct countersink for the head.
- (b) Use bees-wax, grease or even soap on

the screw before insertion.

Both of these tips will save a lot of blisters.

USE G CLAMPS.

From start to finish, G clamps are indispensable. They are used for holding the two L girder members together whilst the glue is drying, for holding legs to the L girders whilst adjustments are made for varying floor levels, for holding braces whilst angles are set and for holding risers to joists whilst track base heights are fixed.

Borrow all of the G clamps available during this phase.

MINIMUM TRACK HEIGHT.

A common mistake with any system using "risers" is to set zero track level right on the cross-timbers (joists). This is not wise, as it does not permit any scenic feature to be below this level.

Nothing looks more silly than a bridge sitting on the base-board or a turn-table without at least a small well.

In my opinion, the minimum track level on a large layout should be about 4" above the top of the joists.

CONCLUSION.

Before starting a new layout, decide whether yours is a small and completely planned layout or a large one that will grow as you feel like it. If the former, follow Maurie McKinnon's article in this Journal. If the latter, use the flexible L girder system, but in either case, read the two articles by Maurie referred to in this article, to select the timber and to process it.

Conversion To N.S.W.G.R. Hoppers

By C. GILBERTSON

In the May/June issue of Journal, I described how to convert an Airfix Mineral Wagon into a N.S.W.G.R. "S" Wagon. The next item to come under consideration is the Rivarossi Bogie Hopper in a conversion to the N.S.W. hopper of the BCH-BWH variety. An Athearn Wagon of this type could be used as a substitute.

The BCH is a steel triple coal hopper car, 36 feet in length, with a capacity of 42 tons. Approximately 1550 of these vehicles entered service during the early 'fifties as part of a policy to replace ageing four-wheel vehicles. A number of subsequent conversions has taken place and not long after the first vehicles entered service, a few were experimentally fitted with roofs for wheat traffic. A total of 570 was eventually so fitted and recoded BWH, having a capacity of 41 tons. Of these wagons, some 180 were recoded BRH for increasing cement traffic, there being no difference between these and the BWH. A further 33 of the BCHs were altered by the addition of roofs and heavier bogies to cement hoppers, coded HRH, these wagons having 50 tons capacity. For limestone traffic, 65 BCHs had their sides cut down, the vehicles concerned being coded BLH, with a capacity of 43 tons. After all of the standard cars had been delivered, 150 cars fitted with roller bearing bogies, with a capacity of 52 tons and coded HCH (for coal traffic), entered service. Unlike the HRH cars, these vehicles are fitted with higher sides than the standard hoppers.

Now for the conversion. If using a ready-to-run car, then disassemble it, and referring to the drawing (Fig. 1), remove (by cutting) the sections indicated. After cutting, file the two parts square and glue together. Cut the underframe to the same length as the body, but in the case of the Athearn vehicle, one of the four hopper doors has to be removed. Once this has been completed, assemble the model and glue the sections together. However, if the car you are using is a Rivarossi model and you desire to fit X2F or Kadee couplings then, snap off the coupler mounted on the bogie and file the coupler pocket (on the underframe) back to a flat position, thus removing the small rib. Then fix

the draft boxes and assemble the car as per the instructions.

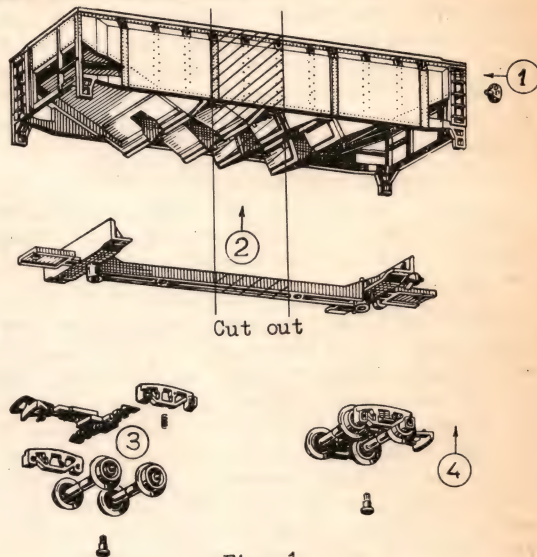


Fig. 1

If you have chosen to model a BCH, then add a coal load if desired. However, if you desire a BWH or BRH, then add a top made of a piece of 1/4" balsa, as per Fig. 2.

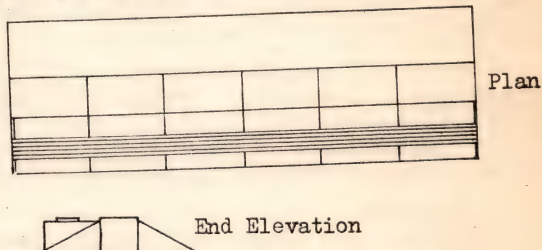


Fig. 2 ROOF DETAIL

Next comes the painting, colours being standard black underframe and body with white numbering and lettering. Numbers of the BCH, BRH and BWH cars are 28625 to 29424, which includes 32 HRH hoppers, 32000 to 32566, 32568, 32572, 32578, 32589, 32595, 32637 to 32749. BLH cars are numbered 32567, 32569 to 32571, 32573 to 32577, 32579 to 32588, 32590 to 32594, 32597 to 32636. HCH cars carry the numbers 32750 to 32899.

The next article in this series will be conversion of the Triang "Davy Crockett" cars into end loading platform cars.

Styrene - The Versatile Material

By J. A. BALL

When a fellow gets the urge to model something, the "Big" problems after acquiring the necessary data, are to decide what material and what method to use. Generally, the choice is governed by ability - or lack of same - in handling the tools we have at hand.

I've tried many materials and find that "Styrene" is by far the best, combined with the use of Trichorsthalene or "Keytone", as it is more commonly known, as an adhesive.

This material is more versatile than most that I have tried as it can be drilled, tapped, bent, turned, shaped, cut, filed and embossed with amazing ease: in fact, it is so versatile that it is something to be marvelled at. You don't know what you are missing if you haven't tried it yourself. You can draw all your plans directly on the styrene (in pencil) and if you make any mistakes, all you need to do is to erase with an ordinary rubber.

One can purchase a quantity of Styrene from most hobby shops for a small outlay and Keytone from the local chemist for about \$1.00 for 10 fluid ounces, and this is enough to last a life-time.

I use an old nail-polish bottle with a large base to prevent it from toppling over. This bottle also has a brush enclosed in the cap which makes it ideal to apply Keytone to the styrene when assembling.

I purchased some mixed thicknesses to find out which is better to use in constructing a model to suit HO/00 scale and found that it is better to have an assortment of .020" .030" and .040", as I found these thicknesses to be the most common required.

Always remember that one inch in prototype represents approximately .010" on the model.

With the few tools that I possess and with very little experience, I was soon on my way to success. I had a model of a carriage in no time - about an hour from setting up to the finished, unpainted model. That gives you some idea how quick it is to model when using this material styrene. It can be scribed with an ordinary

knife as well as being cut with same. It can also be embossed for riveting quickly by using an old clock wheel.

The use of styrene is very fast, but word of warning - when using Keytone, do so in a well-ventilated room as the fumes are POISONOUS and should not be inhaled.

The use of this medium of joining styrene leaves nothing to be desired. There is no sign of the joint as it welds itself on contact and you must work fast and accurately or you'll have to start all over again. You can't pull the joint apart all you do is tear the styrene itself as it holds so well.

To join, all you have to do is to take a brushful of Keytone, run this along once, and in a short while the joint is stuck for good. Even right angle pieces will stand erect, needing no support as would be needed with card.

A further word of warning - don't get Keytone on the fingers or you'll ruin your work, just as Britfix will ruin other types of plastic models.

An idea I found in using styrene is that if one wishes to obtain that glazed window effect on toilet windows, all one has to do is to get some Keytone on the brush, run this over a spare piece of styrene, paint this on a piece of cellophane and there you have your glazed windows.

When painting a model, the best method is to paint as much as possible before assembly, making sure to keep paint off the edges to be joined. If you happen to get paint on these parts, all you need to do is to scrape the paint off with a knife and join as described above.

Any warping effects needed can be obtained by shaping the piece in the hands before assembly, then holding in place whilst being cemented together. This piece will stay warped indefinitely.

Well, friends, that is all I can tell you of the uses of styrene in modelling, but I can assure you of immediate success once you get your hand in as I did, when I started using Styrene - The Versatile Material.

Branch Notes

S.W. BRANCH.

Sydney turned on a near perfect Six-hour Day weekend for the 1967 N.S.W. Branch Model Railway Exhibition; also for the State visit of the President of Italy, as well as the start of the surfing season, the "Herald" Garden inspections, the Six-hour Day march, not to mention the "geezes". All of which made the task very difficult for our Publicity boys as competition for Press, T. V. and Radio space was very keen.

Despite all these lesser attractions, the Exhibition went off very well, although no doubt due to the above, our attendances were down on last year.

The Vic. boys helped to swell the numbers with the visit of Eric Doherty, Cedric Rolfe, Rex Little, Jack Treseder, Mal Baker, John McNabb and Ken Downs. These visitations are very welcome and our members enjoy the opportunity to have a natter with the Federal Members.

Jack T. risked a possible dislocation of the right arm on Saturday night and only the frequent application of Silver Salve prevented him from suffering any discomfort.

Again, we are indebted to Mrs. Lamour, Mrs. Warren, Mrs. Dunn and Mrs. Bunker for a terrific job keeping the billy boiling. Our very sincere thanks, Girls, for a mighty job cheerfully done.

RUP. ACKLAND.

VICTORIAN BRANCH.

Well, we still haven't moved into North Port, but the lease is being prepared. As soon as the rooms are fitted out with the help of members, occupancy is anticipated in early 1968.

The layout progresses slowly, and was unveiled to members at our October meeting. Not as much progress as had been hoped, but with the aid of many pieces of wire, a train was run on the mainline! - and under power, too! Several other pieces of equipment for the layout were shown off - unfortunately not in their correct loca-

tions, however.

The October Exhibition was put back a month by the School Committee, much to the relief of your Committee - however, we are still hoping that we will be able, with the members' help, to put on a good display in November.

Now the wiring is almost completed, workers are still needed to get the layout running and completed. Work still continues on Tuesdays at my place - 48 Esdale Street, Nunawading, and at Jack Treseder's - 55 Creek Road, Mitcham, on Thursdays. There is always something for all to do, even to iron out a small problem or two.

Metropolitan members will be informed of any change in our meeting place via the monthly circular, but remember - the Vic Branch meets on the second THURSDAY of each month, at present in ALL SAINTS CHURCH HALL, Glenferrie Road. Kooyong, at 8 p.m. See you there ??

REX LITTLE
Secretary.

QUEENSLAND BRANCH.

Since the last report, we have heard that the Q.G.R. might move us upstairs to a very large room as they may rent the area we now occupy. Due to this, the work on the HQ layout has ceased. If we move, the HQ layout will be rebuilt around the walls of the room with the SN3½ layout occupying the centre. The track relaying on the SN layout is now almost complete.

We are entering a static display in the Model Railway Show here this year and Eric Lyon is preparing the exhibit of various models displayed on a stand with a lot of emphasis on scratch-built locos and rolling stock.

GRAHAM WILSON.

The 1967 Sydney Exhibition Report

By C. GILBERTSON

Once again over the Labour Day holiday weekend, the A.M.R.A. Exhibition was held and although attendances were at times disappointing, it was undoubtedly a success. As well as a few of the "old favourites", there were many new layouts since the 1966 Exhibition, which showed mostly completed exhibits.

Umina Model Railway Club, a Salvation Army group, were exhibiting for the first time a pleasing layout with a combination of many proprietary lines running on it.

The Australian Railway Historical Society once again had a large variety of records and publications available. George Berg of Berg's Hobbies had a small layout displayed on which were some of the N.S.W. G.R. rolling stock kits to be marketed in the near future, the first of these being on sale (see Shop Spy).

The N.S.W. Model Railway Club had their 10' x 5' layout of a typical country town displayed again, this time with relay-operated single light signals, which were pleasing to see. As well as the locos listed in last year's report, at times a "triple-header" was running, in the form of 1801 + 1802 + 1803 on three "dogbox" cars (maximum load!?!?). Next door, Jack Shambler's N-gauge layout of N.S.W.G.R. prototype was to be found. The 18 and 25 class seen last year were again running, but the one that stole the show this year was Jack's CPH rail motor which could only be described as immaculate.

The N.S.W. Steam Tram and Railway Preservation Society, who operates the steam tram at Parramatta Park, ran models of various former N.S.W. steam tram motors and rolling stock in 1 gauge, together with an overhead section showing an E17 class and coal hoppers, modelled on where the Old Lambton Colliery used to cross the Wallsend steam tram line in Newcastle.

J. Searle and Sons had two small Marklin layouts operating together with a static Eggerbahn display. This year, the Australian Electric Traction Association had an HO tramway layout on display, together with publications for sale, including "The Green Lines", describing the lines that were worked by Newtown Depot on Sydney's former

tramway system.

The Blue Mountains Branch of our Association was well represented with a 20'x10' layout, on which mostly American prototype was run.

Richard Youl again displayed his 1/2" - 1 ft. trams, as well as some recently completed and partly built models. Richard has added a set of storage sidings to house his growing fleet.

The Central Coast Model Railway Club from Gosford has also been very active over the last twelve months and showed us their partly completed model of Hawkesbury River station. I am sure that many of us look forward to seeing it in a more advanced stage next year.

The New South Wales Rail Transport Museum was once again offering for sale a number of items, including the 1968 Calendar. Slides and movies were screened at regular intervals. Sharing the stand were Rail Recording and Film Services, whose proprietor, Jim Powe, had two new records for sale: "Pigs" (devoted to the once proud 36 class, of which only three now remain in active service) and "Main West" (various recordings of the now dieselised main western line in N.S.W.)

Two members of A.M.R.A., David D'Abrera and Hugh Govers, exhibited a small and compact layout in Marklin. Another member, John DeHorne, proprietor of the Fantastic Hobby Shop, displayed his wares aided by a Triang layout.

Traction Publications of Canberra City had a few new books on show, including a revised edition of "Destination Circular Quay", describing the former Sydney tramway system.

The Southern Cross Model Railway Association (as N.M.R.A. is now known) had a completely new layout on which both American and Australian prototypes were run. Beside the S.C.M.R.A. were S.C.R. Publications, producers of the Australasian Model Railroad Magazine.

The A.M.R.A. stand this year boasted two layouts: the 18' x 12' portable N.S.W. Branch layout, together with a Marklin and

Hornby Dublo 3-rail layout staged by Exhibition Committee members Keith Robinson and John McDicken (N.S.W. locos and rolling stock converted from Hornby by John were running).

Mr. Arthur Sherwood once again joined us with his very exacting layout in 1"-20" scale. Adjoining Mr. Sherwood was the New South Wales School Railway Clubs' Association, again represented by the Canterbury Boys' High School Railway Club with a partly completed layout modelled on Newbridge, situated on the main western line between Bathurst and Blayney.

The "O Gaugers" once again showed us their fine hand built models, mostly of N.S.W.G.R. prototype. Four storage sidings and a departure road between them and the main yard have been added since last year.

Len Marsden's TT gauge layout this year had another section added - in N gauge (where will it end!?). The Sydney Society of Model Engineers had a static stand again and many fine models, both live steam and electric, were on display. Liberty Trading, distributors of Airfix, Hamamant and Torgon, etc., gave us an opportunity to preview what may be coming on to the market in the near future.

Well, that was the 1967 Model Railway Exhibition. At times attendances disappointing, at times tense, but as always, a resolving success. We were glad to see the many members of the Victorian Branch up again, together with the Blue Mountains Branch, and hope to see both groups again next year, together with the many layouts seen this year in the course of construction.

JOURNAL COPY.

Articles and particularly photos are required urgently for Journal.

A good quality, balanced Journal is more dependent on the material submitted by you, the members, than on the Editor, so it's up to you.

Book Review

"THE RAILWAY AGE", by Michael Robbins, was first published in 1962 and is now available in the Penguin series for 65c.

This is a book about railways with a rather unusual slant. It deals with the railways of (mainly) Britain, from the social point of view - the effects of the railway on society, both from the passengers' and goods' points of view. It is a fascinating book for anyone with any of the railway interests, from model to prototype.

For example, do you know the origin of the classes (there were up to five on some lines), the speculation (and crashes) in the finance world associated with the railway boom periods of the last century, that excursion trains of four engines and up to 75 carriages were run in 1852, even 67 carriages in 1840, that Thomas Cook started his world-wide tourist business by acting as agent for a "shilling a head" excursion in connection with a temperance demonstration?

These and a thousand other interesting little stories will enthral the railway enthusiast from cover to cover, and leave him with a very real knowledge of the tremendous effect of the railway on the social life of the last century.

ALLAN DOWEL.

FOR SALE.

Enhorning S gauge diesel CPR livery, plastic body warped, chassis in good running order. Scale wheels. Pittman DC94 Motor. \$12.

Dr. S. Suggit, Andrew House, 1 Wickham Terrace, Brisbane, Qld. 4000.

WANTED.

Model Railway Constructor, February 1965, November 1965. Full price and postage paid.

Dr. S. Suggit, Andrew House, 1 Wickham Terrace, Brisbane, Qld. 4000.

Shop Spy

SYDNEY HOBBY SHOPS.

Hobbyco, 561 George Street, Sydney, 2000,
(Phone: 61-9655).

Viewed at Hobbyco, Athearn's magnificent twin-motored DD.40 diesel electric loco. This is undoubtedly one of the finest efforts Athearn have ever produced. Also from Athearn are some of the original 40' wagons, stocks of these being very limited.

Kadee Products are also well to the fore with a new shipment, which apart from their standard range of couplers, includes bogies, wheel sets, air hoses, brake wheels and other accessories. Hobbyco have available a large range of Kalmbach publications, including some new ones. Concor rolling stock is also to hand and we believe that the long awaited Atlas N gauge items are now in stock.

J. Searle and Sons, 315 Pitt Street, Sydney, 2000 (Phone: 26-5737).

New models are now to hand in the Hamo, Rokal and another new line from Hinzl. The latter include some good locos of Continental prototype.

HO signals are very reasonably priced, semaphore two aspect and three aspect.

Bring your A.M.R.A. card with you.

Fantastic Hobby Shop, 34 Angel Arcade, Sydney, 2000 (Phone: 28-2318).

A limited stock of now very scarce Airfix Kits is held by member John DeHorne, who also has a good range of Rivarossi, Eggerbahn and Triang. Various types of Austral Modelcraft timber were also noted.

Berg's Hobbies, 111 Macquarie Street, Parramatta, 2150 (Phone: 635-8618).

The big news for this issue is the release of the first of a series of rolling stock kits in N.S.W.G.R. prototype. Coinciding with the Model Railway Exhibition the first kit available is the MRC (Refrigerator Car) or MBC (Box Car).

It comes as a body kit only and buffers, ladders, brake gear, couplers and bogies are not supplied. It is planned to market a new kit every month and probably as you read this, a further two will be avail-

able. The next kit to be produced will be a two for one Flat Car of the UME/M type, later kits being of the BBW (Bogie Ballast Wagon), SRC (four-wheel refrigerator car) and a bogie goods brake van (either MHG or FHG (formerly coded NHG). Future plans may see a RUB set (of the type used on the Inter-Capital Daylight Riverina, North Coast Daylight and Brisbane Limited Expresses) in production, together with further goods stock items. However, this will depend on demand and the Exhibition was any indication, this was quite pleasing.

Please note that North Shore Hobbies and Sydney Model Railroad Supplies are not mentioned as they have no new items in stock.

DRAWINGS.

Two of the N.S.W. Branch members, Jack MacMicking and Les Fordham are each preparing an excellent set of drawings in N.S.W.G.R. prototype.

Jack has been going now for a couple of years and consequently has quite a comprehensive range in locos and rolling stock:

Z13 Class	80c.	60c.	50c.
C32 Class	\$1.10	90c.	80c.
D50 Class	\$1.00	80c.	70c.
D55 Class	\$1.20	90c.	90c.
MHG Brake Van	80c.	60c.	50c.
BWH Bulk Wheat			
Hopper	80c.	60c.	50c.
MRC Refrigerator			
Car	80c.	60c.	50c.

These may be obtained from Jack at 24 Eastern Valley Way, Middle Cove, N.S.W. 2068. Please add postage to the above costs.

However, Les Fordham of 3 Sixth Avenue Eastwood, 2112, has been concentrating solely on rolling stock drawings (at this stage) and offers for sale the undermentioned drawings in HO gauge:-

SHG or BHG 30' Bogie Goods Brake Van	50c.
TRC Refrigerator Car	50c.
End loading platform cars of the "Tourist" type	75c.

The above prices do not include postage which is additional.

A.M.R.A. JOURNAL - ANNUAL INDEX - 1967

Issues numbered 66 to 71.

Subject	Issue	Page	
Advisory Panel	66	28	
	69	126	
Bench Work without Tears	M. McKinnon	71	3
Book Review - The Railway Age		71	19
Branch Notes: Victoria		66	41
		69	129
		70	149
		71	17
		68	104
N.S.W.		66	41
		67	65
		69	129
		70	149
		71	17
Q'ld.		67	65
		69	129
		71	17
Sth. Gippsland		67	65
Blue Mountains		69	129
anden-Campbelltown	B. Boydell	66	42
competitions - Conditions of Entry		67	78
		69	108
Constructing a timber Trestle in HO	M. Dixon	70	144
Conversion of Airfix - NSW S. Wagon	C. Gilbertson	68	88
Conversion to NSW Hoppers BCH-BWH	C. Gilbertson	71	15
Construction Articles:			
Bench Work without Tears	M. McKinnon	71	3
Constructing a Timber Trestle	M. Dixon	70	144
Diesel Shunter That Wasn't	B. Rowling	70	135
Designing the Layout	A. Dowel	70	137
Electricclinic, No. 2 The Diode	A. Dowel	66	29
Electricclinic, No. 3, Relays	A. Dowel	67	66
Foundations, The	A. Dowel	71	9
Hildenhurst Pt. 1.	D. M. Hodges	67	63
Pt. 2.		68	82
How we built the MMR, Pt. 4	A. Dowel	67	61
Rail Car for Your Layout, A	R. Little	66	35
Right of Way	M. McKinnon	66	49
Styrene, The Versatile Material	J.A. Ball	67	79
Unsoldering		67	79
Wood for Works and Ways	M. McKinnon	67	75
Your First Purchases	A. Dowel	69	122
Diesel Shunter that wasn't Diesel & wouldn't Shunt	B. Rowling	70	134
Designing the Layout	A. Dowel	70	137
Electricclinic, No. 2, The Diode	A. Dowel	66	20
Electricclinic, No. 3, Relays	A. Dowel	67	66
European Newsletter No. 1.	E. Raddatz	68	101
No. 2.		69	127
No. 3.		70	151
Foundations, The	A. Dowel	71	9
Missin Branch Line. The		66	51

How we Built the MMR. Pt. 4	A. Dowel	67	61
Hildenhurst, Pt. 1	D.M. Hodges	67	63
Pt. 2		68	82
Journal Box:			
You Can't have It Both Ways		66	27
Are You an Armchair Modeller?		67	53
We All Need a Goal		68	81
For Beginners		69	107
Are You Guilty		70	133
Baseboards		71	1
Layouts:			
Hildenhurst, Pt. 1	D.M. Hodges	67	63
Pt. 2		68	82
Midland Railway, The	B. Rowling	67	55
Orange & Central West M.R. Co. The	C. Gilbertson	69	109
London Newsletter, No. 1	E. Radatz	68	85
No. 2		69	132
Memories of the Camden-Campbelltown Line	B. Boydell	70	140
Midland Railway, The	B. Rowling	67	55
News From Other Clubs: MMRS		66	34
		68	103
		69	131
		70	136
		70	136
Auckland Metrop. MRC. Inc.		69	109
Orange & Central West M.R. Co. The	C. Gilbertson	69	109
Prototype Articles:			
Camden-Campbelltown line	B. Boydell	66	42
Memories of the Camden-Campbelltown line	B. Boydell	70	140
Review of the V.R. 2'6" N.G.	J.A. Ball	69	115
Signalman's Computer		66	51
Toughest Railway on Earth, The	F. Sibson	68	96
President's Desk		70	150
		71	2
Pop Valve		66	33
		67	78
		68	92
		69	130
Rail Car for Your Layout, A.	R. Little	66	35
Range Centenary, The	P. Mottram	71	8
Review of the V.R. 2'6" N.G.	J.A. Ball	69	115
Right of Way	M. McKinnon	66	49
Secretary's Desk		67	54
		69	109
		71	2
Signalman's Computer		66	51
Shop Spy		66	52
		68	106
		70	148
		71	20
Styrene, The Versatile Material	J.A. Ball	71	16
Sydney Exhibition, 1967	C. Gilbertson	71	18
Toughest Railway on Earth, The	F. Sibson	68	96
Unsoldering		67	79
Wood for Works and Ways	M. McKinnon	67	75
Your First Purchases	A. Dowel	69	122